

EXHIBIT

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BRAUN		Meeting Notes
<u>Participants:</u> G. Braun, N. Smetana		<u>Place of Conference:</u>
<u>Subject:</u> Shaving cleaning device Blower attachment and air ducting		Office Smetana Date: 08/03/93
Distribution list: Participants, Dr. D. Pahl (T-ER), Dr. R. Jung (T-EF)		

Principle of the prototype (actual state)

The used shaver is placed downwards with the soiled shaver head into the cleaning device and is firstly rinsed with cleaning fluid and is then dried in a cold airstream. The drying times are however still too long according to Mr. Braun or the drying result is not satisfactory. Furthermore, the sound of the provisionally used axial blower from the Airstyler (\varnothing 31 mm) is disturbing.

Improvement of the drying qualities

The discussion concluded that air drying of the shaver cutter block can be improved by taking several measures. The object is to direct the air with sufficiently high speed directly onto the moist area of the shaving foil and in the cutter block. Thus, firstly the necessary amount of air and speed should be established in order to dry the shaver head in a desired period of time.

The construction consists of:

- An auxiliary blower or test blower (see 2) with variable rotational speed
- Laminar Flow Element for flow rate measurement (present in T-EF 2).
- One or more narrow inflow nozzles (see 1)
- Holder for shaver head with improved air ducting (see 3)

- 1) The nozzle-shaped inflow on the outlet cross cut should have the same longish, narrow shape as the shaving foil(s). The cross cut surface does not need to be greater than the projection of the shaving foils which are blown onto – if necessary somewhat smaller. In principle, several openings alongside one another are possible. The distance between the inflow and the shaving foil should be relatively small. A (slightly) inclined inflow in the direction of the tip of the shaver head is also advantageous. [Sketch 1]
- 2) The blower used must therefore be in a position to build up a relatively high pressure for the flow through of this nozzle / these nozzles and the subsequent flow resistance. Arithmetical estimates of this are possible. The air rate is secondary, because it results from the cross cut surface times the achievable flow speed. The performance of a small Mabuchi (cf. Air styler) is adequate.

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A final selection of blower is not possible until the results of the drying tests are available. The use of a small radial blower, which is connected to the nozzles of a "flow channel" is conceivable. Preliminary test of this can be carried out in T-EF.

3) At present the drying air can flow laterally and below the shaver head. It therefore does not reach or does not adequately reach through the shaving foil into the moist cutting blocks. Drying takes too long. The holder for the shaver head must be sufficiently changed so that these free cross cutters fall away at least laterally. The gap below the head should only be large enough so that the cleaning fluid can flow away. A seal of the gap would be helpful.

[Sketch 2]

While cleaning the flex control, it is possible to hold the entire head at an angle in order to be able to direct fluid and then air directly onto the second blade block. Two appropriately arranged inflow nozzles are more effective here than one. [Sketch 3]

- 4) In case the drying still takes too long with these measures the installation of a small heater for the air stream should be discussed.
- 5) When using **one** motor for driving the fluid pump and the blower the additional cost of electronic and mechanical regulation should be considered as both systems operate with differing rotational speeds and motor loads and must be inserted next to each other.

N. Smetana

Skizze = sketch

[see source for sketches]

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